

Application Number: 09/287,573

Docket: A-67207-2/RMS (469420-26)

Remarks

Claims 16-27 and 29-48 are pending. Claims 20, 27, 29-30, and 32-33 have been amended. Claims 16-19, 23-26, 40-45, and 48 have been withdrawn. Claim 28 has been cancelled. Claims 20-22, 27, 29-39, and 46-47 are currently under examination in the present application.

Support for claim 27 as amended is found in the present application, for example on page 27, ll. 7-11; page 11, ll. 10-19; page 41, ll. 28-30; page 47, ll. 21-29; and in original claim 28 as filed.

Examiner Interview

Applicants would like to thank Examiners Gabel and Le for their participation in a telephonic interview with Applicants' representatives, Robin Silva and Sean Solberg on Tuesday, October 18, 2005. During the interview the rejections under 35 USC sections 112, second paragraph and 103 were discussed. The amendments above and remarks below are believed by Applicant to substantially conform to the subject matter discussed in the interview and result in the Examiner's reconsideration of the rejections.

§ 112, ¶ 2 Rejections

In the outstanding Office Action, claims 20-22, 27, 29-39, 46, and 47 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. More specifically, it is asserted that claim 27 is indefinite in failing to clearly define essential structural and functional cooperative relationships between elements, such omission amounting to a gap between the necessary structural connections. Examiners Gabel and Le explained the rejection more specifically during the interview asserting that it wasn't clear whether part (a) of claim 27 was directed to a plurality of subpopulations in which each subpopulation has sensor elements having the same bioactive agent such that all the subpopulations have the same bioactive agent or to a plurality of subpopulations in which each subpopulation has sensor elements having the same bioactive agent but each subpopulation has a different bioactive agent.

Claim 27, as amended, particularly points out and distinctly claims the subject matter regarded as the invention. As discussed during the interview, claim 27 has been amended to recite "providing an array with a plurality of subpopulations of sensor elements, the plurality of subpopulations of sensor elements comprising a first subpopulation comprising sensor elements

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having the same first bioactive agent and a second subpopulation comprising sensor elements having the same second bioactive agent.” Thus, it is respectfully submitted that claim 27 particularly points out and distinctly claims the array with a plurality of subpopulations of sensor elements. Reconsideration and withdrawal of the rejection is respectfully requested.

Because claims 20-22, 29-39, 46, and 47 depend directly or indirectly from claim 27 and incorporate all the limitations of claim 27, the above argument obviates the basis for these grounds of rejection. Thus, claims 20-22, 29-39, 46, and 47 are not indefinite. Reconsideration and withdrawal of the rejection is respectfully requested.

§ 103(a) Rejections

Claims 27, 29-39 and 47 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,837,196 (“Pinkel”) in view of U.S. Patent 5,739,000 (“Bierre”). Further, claims 20, 22, and 47 were rejected as being unpatentable over Pinkel in view of Bierre as applied to claims 27, 29-39 and 47 above and further in view of U.S. Patent 5,559,668 (“Stimpson”). In addition, claim 21 was rejected as being unpatentable over Pinkel in view of Bierre as applied to claims 27, 29-39 and 47 above and further in view of Stimpson and an article entitled “Antigen-Antibody Diffusion-Limited Binding Kinetics for Biosensors: A Fractal Analysis,” *Sensors and Actuators B* 32 (1996) 195-20 (“Sadana”). It is respectfully submitted that claims 20-22, 27, 29-39, and 46-47 are patentable.

Independent Claim 27 Is Not Made Obvious by Pinkel In View of Bierre Because Pinkel and Bierre Fail to Teach All Limitations of Claim 27

Claim 27, as amended, is directed, *inter alia*, to obtaining individual response signals at each of said sensor elements from at least one of said first and second subpopulations, the first subpopulation comprising sensor elements having the same first bioactive agent and the second subpopulation comprising sensor elements having the same second bioactive agent; and performing a statistical analysis on said response signals from at least one of said first and second subpopulations, whereby statistical validity of said response signals is determined.

Neither Pinkel nor Bierre, alone or in combination, teach or suggest the invention of claim 27. More specifically, Pinkel fails to teach or suggest obtaining individual response signals at each of the sensor elements from at least one of the first and second subpopulations, the first subpopulation comprising sensor elements having the same first bioactive agent and the second subpopulation comprising sensor elements having the same second bioactive agent.

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Rather, Pinkel teaches a detector that is "arranged to read the signal from single optical fibers or from groups of optical fibers where all of the optical fibers in a group bear the same species of biological binding partner." See Pinkel, col. 9, ll. 45-48. That is, any description in Pinkel of detecting signals from the sensor elements of a population having the same bioactive agent is limited to obtaining a single signal from the population as a whole and not to obtaining individual response signals at each of the sensor elements that have the same bioactive agent.

Bierre is relied upon as allegedly describing a method of multi-parameter data analysis by means of an algorithmic engine. However, Bierre fails to remedy the deficiencies of Pinkel because Bierre does not teach or suggest obtaining individual response signals at each of the sensor elements having the same bioactive agent in the device of Pinkel or in any other device. Thus, Pinkel taken alone or in combination with Bierre fails to teach or suggest obtaining individual response signals at each of said sensor elements from at least one of said first and second subpopulations, the first subpopulation comprising sensor elements having the same first bioactive agent and the second subpopulation comprising sensor elements having the same second bioactive agent. Furthermore, absent a teaching or suggestion of obtaining individual response signals at sensor elements having the same bioactive agent, Pinkel and Bierre, taken alone or in combination, do not teach or suggest performing a statistical analysis in such a way that statistical validity of the response signals can be determined, as claimed.

Thus, it is respectfully submitted that neither Pinkel nor Bierre, alone or in combination, teach or suggest the invention of claim 27. Reconsideration and withdrawal of the rejection is respectfully requested.

Because claims 20-22, 29-39, and 46-47 depend directly or indirectly from claim 27 and incorporate all the limitations of claim 27, the above argument obviates the basis for this ground of rejection. Thus, claims 20-22, 29-39, and 46-47 are not made obvious over Pinkel in view of Bierre. Reconsideration and withdrawal of the rejection is respectfully requested.

Claims 20, 22, and 47 Are Not Made Obvious by Pinkel in View of Bierre and Further in View of Stimpson

Claims 20, 22 and 47 depend directly or indirectly from claim 27 and incorporate all the elements of claim 27. As discussed above, neither Pinkel nor Bierre, alone or in combination, teach or suggest obtaining individual response signals at each of said sensor elements from at least one of said first and second subpopulations, the first subpopulation comprising sensor

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elements having the same first bioactive agent and the second subpopulation comprising sensor elements having the same second bioactive agent; and performing a statistical analysis on said response signals from at least one of said first and second subpopulations, whereby statistical validity of said response signals is determined. Thus, Pinkel and Bierre cannot support a rejection of claim 27. Stimpson is cited as a tertiary reference allegedly describing a further element found within the dependent claims. Because the primary and secondary references, taken alone or in combination, fail to teach or suggest each and every element of the claimed invention and because the tertiary reference is directed to further elements within the dependent claims, it cannot cure the deficiencies of the primary and secondary references. Thus, claims 20, 22, and 47 are patentable. Reconsideration and withdrawal of the rejections is respectfully requested.

Claim 21 Is Not Made Obvious by Pinkel in View of Bierre and Further in View of Stimpson and Sadana

Claim 21 depends from claim 27 and incorporates all the elements of claim 27. As discussed above, neither Pinkel nor Bierre, alone or in combination, teach or suggest obtaining individual response signals at each of said sensor elements from at least one of said first and second subpopulations, the first subpopulation comprising sensor elements having the same first bioactive agent and the second subpopulation comprising sensor elements having the same second bioactive agent; and performing a statistical analysis on said response signals from at least one of said first and second subpopulations, whereby statistical validity of said response signals is determined. Thus, Pinkel and Bierre, cannot support a rejection of claim 27. Stimpson and Sadana are cited as tertiary references allegedly describing a further element found within the dependent claim. Because the primary and secondary references, taken alone or in combination, fail to teach or suggest each and every element of the claimed invention and because the tertiary references are directed to further elements within the dependent claims, they cannot cure the deficiencies of the primary and secondary references. Thus, claim 21 is patentable. Reconsideration and withdrawal of the rejections is respectfully requested.

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Conclusion

Applicant has obviated by amendment and argument the rejections of claims 20-22, 27, 29-39, and 46-47. Consequently, claims 20-22, 27, 29-39, and 46-47 are allowable. Reconsideration and a Notice of Allowance for all pending claims is respectfully requested.

This response is being filed before November 20, 2005, which, when accompanied with a two-month extension fee of \$450, is a timely filed response. Please charge the two-month extension fee, along with any additional fees, including extension fees or other relief which may be required, or credit any overpayment, to Deposit Account No. 50-2319 (A-67207-2/RMS (469420-26)).

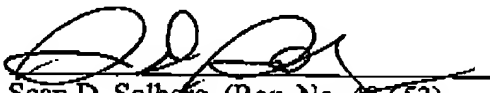
Respectfully submitted,

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Date:

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